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A Study to Determine the Correlation Between the Elizabeth City State University Football Players SAT Scores to their Cumulative Grade Point Averages as a Predictor of College Success

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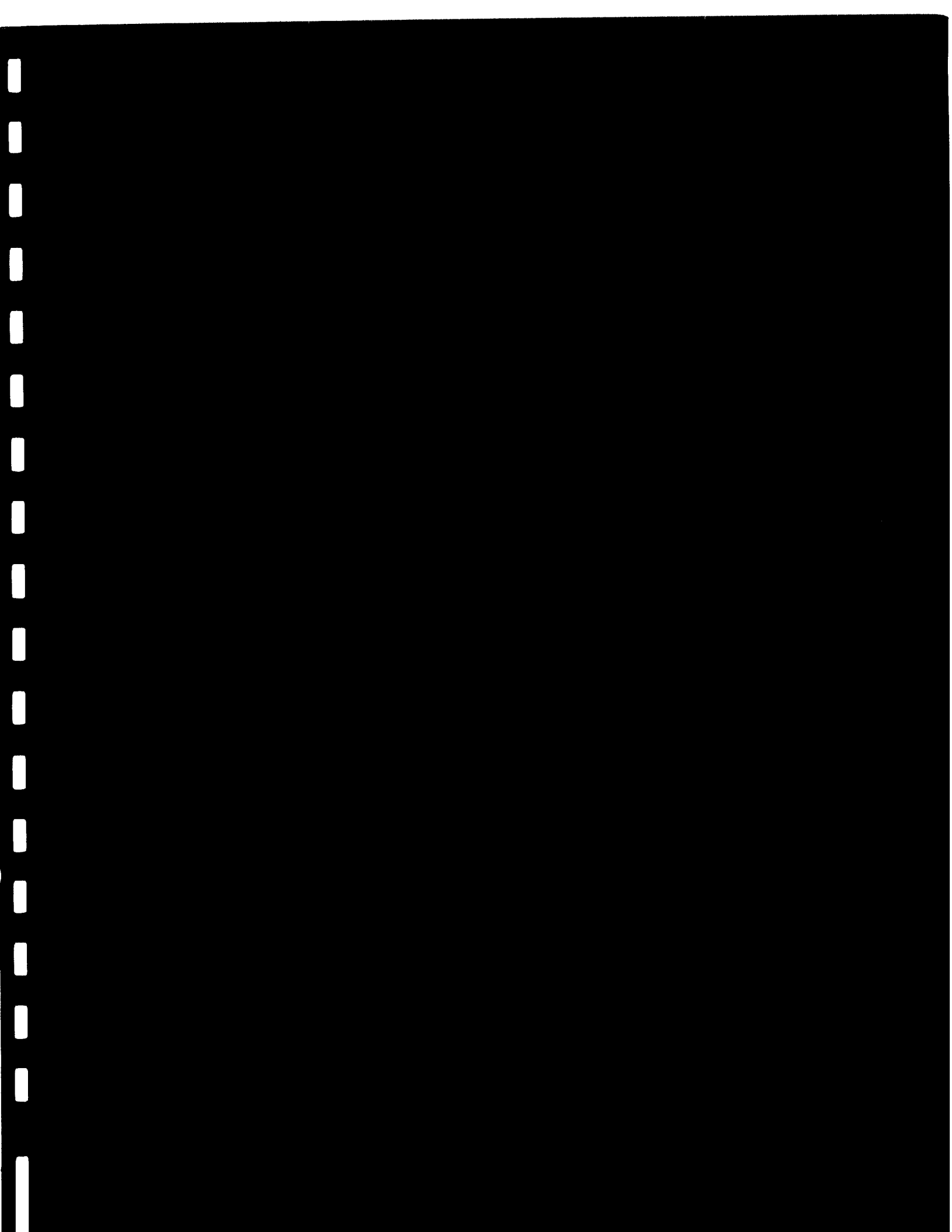
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A STUDY TO DETERMINE THE CORRELATION BETWEEN THE
ELIZABETH CITY STATE UNIVERSITY FOOTBALL PLAYERS SAT SCORES
TO THEIR CUMULATIVE GRADE POINT AVERAGES AS A PREDICTOR OF
COLLEGE SUCCESS

A Research Paper

Presented to the Graduate Faculty
of the Department of Occupational and Technical Studies
at Old Dominion University

In Partial Fulfillment
of the Requirements for the
Master of Science in Education Degree

Juan M. Langford

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Approval Page

The research paper was prepared by Juan M. Langford under the direction of Dr. John M. Ritz in OTED 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science of Education.

APPROVAL BY: 

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CHAPTER I

INTRODUCTION

Every new school year brings a fresh challenge to the coaches of athletics in our colleges and universities. The challenge is to keep each athlete academically eligible for the new year. Many questions have been asked including if the scholastic aptitude test is an accurate predictor of the student athletes academic success? This question has weighed upon coaches and National Collegiate Athletic Association members decision to use the SAT as a requirement for admission and participation in NCAA sports programs. Since the 1980s, many have wondered how the system would operate without the scholastic aptitude test as a primary factor of determining academic success. Overall, one test, along with the cumulative high school grade point average and credits earned, had the power to determine if an athlete gets a chance to participate in sports on the collegiate level.

In 1987, the National Collegiate Athletic Association invoked a rule that would hinder many athletes in gaining an opportunity to prove their academic ability and participate in sports. For college athletes to be eligible for participation during their freshman year, they had to earn at least 700 on the SAT and earn a 2.00 grade point average coming out of high school. Many athletes fell short on the SAT score and had to sit out their first year to prove that

they could stay in college. During this year they must have earned a 2.00 grade point average.

Every coach's dream is to have an athlete come to their university and graduate with a meaningful college degree. To say that one test can determine how well a student athlete will do in college would be unrealistic. There has to be other ways to measure the academic ability to be fair to the student athlete. The National Center for Fair and Open Testing has argued that men actually performed better in college than women, but they do not. Women with the same SAT scores as men earn higher grades in college. (Bracey, 1993, p. 415) Regardless of the strength of a student athlete's SAT scores when entering college, each person deserves a chance to prove his/her academic ability.

Elizabeth City State University football players have a unique situation. Players have an opportunity to prove their academic ability. The coaches understand the need for academic stability and are responsible for seeing that all the academic standards are met. They understand that some players do not test as well as others. The National Center for Fair and Open Testing states that this system of assessing the performance of students is hard on minorities and female candidates. (Manzo, 1994, p. 11) The players all understand that the instructors keep the coaches informed about athletes who are having academic problems. Knowing

that some of the football players have not done well academically in the past, they are assigned academic counselors to help assist with the management of their time and studies. The aim of the coaches and the university is to prevent academic problems. Coaches are constantly monitoring grades, test scores, and attendance, and they are always on the lookout for the small problems that can become big problems if not immediately addressed.

STATEMENT OF THE PROBLEM

The problem of this study was to determine the correlation between Elizabeth City State University football players SAT scores to their university cumulative GPA's as a predictor of college success.

HYPOTHESIS

The following hypothesis was established to guide this study.

H₀: There is no correlation between the SAT scores earned by student athletes and their accumulated GPA for football players at Elizabeth City State University.

BACKGROUND AND SIGNIFICANCE

The NCAA is constantly approached with many problems from different universities. During the past ten years, the biggest issue has been the SAT scores of college athletes and the effect they have had on university recruiting and sports programs.

The NCAA is making decisions concerning eligibility for three different divisions. However, Division I, II and III all have the same basic problems when it comes to student athletes. The SAT test itself was recently overhauled, allegedly to emphasize academic preparation rather than innate ability. (Rebenstein, 1994, p. 17) The universities in the different divisions needed to show that there is an imbalance between SAT score and the successful cumulative GPA that students can earn. Over the years, the biggest problem for college athletes has been the transition from high school to college. Many college athletes have done well on the SAT, but others have not. This study could be an incentive for some student athletes that have problems on standardized tests. The purpose of this study is to give student athletes a confidence builder for establishing a strong academic record.

LIMITATIONS

The following limitations were established to guide

this study.

1. The study was limited to Elizabeth City State University in Elizabeth City, North Carolina.

2. It was limited to the football program at this university.

3. The study was limited to a comparisons of S.A.T. scores to the student grade point averages.

BASIC ASSUMPTIONS

The assumptions that were revealed through this research included the following:

1. E.C.S.U. football player's S.A.T. scores will not correlate to their cumulative GPA.

2. The NCAA should provide other means of determining whether a student athlete receives a scholarship in the future based on the constant changes in colleges' admission standards.

3. The SAT examination will be revised eliminating biasing factors such as socioeconomic status and language.

PROCEDURES

The study of ECSU football players was conducted to determine the correlation of their SAT scores and cumulative

GPA's. Procedures used to help in the research study was to obtain academic records of all the football players and obtain their cumulative GPA's. Once the information was collected from the Registration Office at the university, then the football players SAT scores would be gathered. A comparison of the two scores will be made to determine if a significant difference exists.

DEFINITION OF TERMS

The following terms have special meaning related to this study.

1. SAT- This term refers to a scholastic assessment test which measures academic ability of high school students.

2. NCAA- This term refers to the National Collegiate Athletic Association which sets rules and regulations for universities to follow on the administration of their athletic programs.

3. GPA- This term refers to the grade point average which measures student's academic performance.

4. ECSU- This term refers to Elizabeth City State University where the study took place.

OVERVIEW OF CHAPTERS

This chapter established the need for a study to analyze the SAT as a predictor of academic success for college athletes. The purpose of this study was to determine if a correlation existed between Elizabeth City State University football players SAT scores and their cumulative GPA as a predictor of college success. The purpose of Chapter I was to provide a detailed introduction of the problem which included: a hypothesis, assumptions of the researcher, limitations of the study, the procedures for the completion of the study, and the definition of terms.

In Chapter II, a review of the literature pertaining to the problem will be presented. The methods and procedures used for conducting the study will be described in Chapter III. In Chapter IV, the findings of the study will be presented. Chapter V contains the summary, conclusions and recommendations of the study.

CHAPTER II

REVIEW OF LITERATURE

Chapter II is the Review of Literature. It is a review of the SAT, the relationship that the SAT has to athletes and academic standings for athletes.

The SAT

Tests of mental abilities are so pervasive in our society that it is startling to realize that they have been around for only about eighty-five years. Alfred Binet, a French psychologist, devised the first test of school aptitude. Originally designed to predict school performance, it led to the development of an intelligence test. (Hawkins, 1993, p. 5) Instead of looking for material no one had previously learned, he looked for material that everyone should have learned. He designed a test of general knowledge. His test was known as the aptitude test. The most widely used tests of general intellectual level are those used in college admission. The most common of these is the Scholastic Aptitude Test (SAT). The other accepted college entrance exam is the Academic Comprehensive Test (ACT).

The SAT is administered to many high school students each year. The test has a number of characteristics. It is: composed of a large number of multiple-choice questions, provides measures of a number of different aspects of general scholastic aptitude, and is typically administered

to a very large group. (Sedlack, 1987, p. 486) The Scholastic Aptitude Test (SAT) is one of the most technically constructed tests of general intelligence. It is administered on a nationwide basis by the College Entrance Examination Board. Although the test is designed as an aid in making admissions and placement decisions for prospective college students, the test can be regarded as a measure of general intelligence. It primarily measures comprehension and reasoning ability rather than knowledge of specific facts.

Early test developers believed that it was possible to assess intelligence independently of the environment and that measures of IQ were true expressions of intellectual potential. Although Binet was aware that the scale tended to favor certain groups, he did not pursue the matter. (Hawkins, 1993, p. 15) Creators of the SAT found that Asian American, white and "other" ethnic students received the highest scores, while Mexican American and African American students were among the lowest scores. (Hawkins, 1993, p. 14)

All tests are measures of learned abilities. Special problems arise in testing the aptitudes of individuals from different cultures and subcultures. There are a number of cultural differences that are likely to influence test performance. In addition to language, there are such differences as motivation, attitude toward testing,

competitiveness, speed, practice in test taking, and opportunity to learn the knowledge and skills measured by the test. Some researchers believe that we need to look at other indicators of college success beside the SAT and other standardized tests especially when it comes to students of color.(Hawkins, 1993, p. 16)

Culture-fair testing is an attempt to obtain a measure of ability that is relatively free of all or most of these differences. Disregarding environmental factors and when making racial comparisons, no valid interpretation of test results can be made without accounting for motivation, examinee's race, test content, speed, socioeconomic status, amount of schooling, and language as possible influences on test performance.(Klineberge, 1935, p. 5)

Athletes and the SAT

Few people today would deny the need for minimum academic standards in colleges for all students. However, attention has been focused on the two National Collegiate Athletic Association (NCAA) propositions that limit participation of student-athletes in their first year (Proposition 48) and their ability to receive financial aid (Proposition 42) based on their Scholastic Aptitude Test (SAT) scores. Former Maryland Congressman Tom McMillen, concerned about society's emphasis on sports said, "When we

sacrifice our educational principles on the altar of competitive sport, we do more than ruin the life of a young man or woman, we send the signal to all young people that thinking skills are less important than athletic skills."(McMiller, 1991, p. 489-490)

Proposition 48 was enacted in 1986 to improve athlete's graduation rates. It required college bound athletes to have attained at least a 2.0 grade point average in 11 high school core courses and to score at least 700 on the Scholastic Aptitude Test (SAT) to be eligible to compete in their first year. But what about the student who truly applies himself or herself in their academic studies, and yet still cannot reach the eligibility standards? Is it right to deny this student participation in their first year of athletics? Many have expressed additional concern because of the potential for even greater negative consequences for Black student athletes than for White student athletes. (Eoper & McKenzie, 1989, p. 91-98).

Unfortunately there has been more talk than research on predicting the success of student athletes. For a number of years now, the National Center for Fair and Open Testing has argued against using the Scholastic Aptitude Test as the sole means of qualifying students for college scholarships. Standardized tests such as the SAT or ACT have been shown to correlate fairly well with freshman grades for White

students in general but have had lower correlations for non-White and non-traditional students. (Sedlacek, 1987, p. 484-495).

The current NCAA legislation has raised the initial-eligibility requirements for athletes this year to 820 on the SAT and 2.00 GPA. To create fairness to all student athletes, the NCAA has provided a so called partial qualifier status. This will provide for athletes who fall short of the minimum standardized test score. The provision will allow athletes who score as low as 700 on the Scholastic Aptitude Test (SAT) to receive a sports scholarship and practice with a team but not compete in their first year in college. The NCAA new standards, known as Proposition 16 took effect in August 1996, will require that athletes earn a 2.5 grade point average in 13 high school core courses. Athletes also must earn a score of at least 700 on the SAT or 17 on the ACT, although those with a 2.0 G.P.A. can gain eligibility with at least a 900 on the SAT or 21 on the ACT. Partial qualifiers would be able to earn a fourth year of athletic eligibility during the fifth year of college.

Academic Standings for Athletes

The coverage of the press concerning the academic success and failures of athletes outweighs stories about

non-athletes. There has been public debate over two recent National Collegiate Athletic Association (NCAA) rules. Proposition 48 and 42 express more academic concerns for student athletes than in the past years. Both the advocates and critics have controversial arguments for the standards. The rules set a minimum test score for an athlete to be eligible to earn a scholarship and play sports in the first year of college. Proposition 48 and 42 have been in effect since 1986 and are scheduled to be strengthened this year. Those who support raising the standards point to the findings that stricter requirements have led to higher graduation rates. Others who supported rolling back the standards cite the findings that tougher rules have disproportionately forced a high number of black athletes out of big time sports. An NCAA study found that 57 percent of the scholarship athletes who entered Division I institutions in 1987 had graduated within six years. (Blum, 1994, p. A38) The study does nothing to ease the concerns of the rule's opponents that the higher standards forced academically underprepared athletes out of big time sports. "This report may be just another indication that opportunities are being taken away from youngsters, and many more black youngsters in particular. If you want to have a great graduation rate, just keep raising the standards", said John Chaney, men's basketball coach at Temple University. (Hawkins, 1993 p. A38)

Some higher education and college sports officials, particularly those at black colleges, fought against passing Proposition 48 in 1993. They argued that the rule unfairly punished or shut out the athletes that were less prepared academically, including black athletes. Advocates for the rule insisted it would force high schools to give athletes a better academic grounding. This would help athletes earn college degrees. The lingering concern about the rule is its effect on black athletes, who traditionally score lower on standardized tests than white athletes and are more likely to come from lower socioeconomic backgrounds.

The NCAA report found that about 600 fewer black athletes had enrolled in Division I colleges in 1986 than each of the three previous years. (Blum, 1993, p. A42) The percent has increased slightly due to the addition of new rules. Many colleges now recruit transfer athletes to replace the freshman who failed to qualify. The NCAA did not start measuring the number of transfers until 1993. (Blum, 1994, p. A38)

This year's graduation rate included a separate category for transfer student athletes. In the past, the NCAA calculated a refined graduation rate, which included athletes who transferred to an institution after their freshman year and excluded those who left before graduation. Getting a clearer picture of Proposition 48's impact on the

prevalence of transfer students is impossible. (Blum, 1984, p. A38)

Summary

A review of literature that pertains to the SAT, the relationship that the SAT has to athletes and academic standings for athletes, has focused on some distinct points. There is a need:

1. For a more accurate way of determining an individual's intelligence.
2. To consider other factors that may effect SAT scores.
3. To realize that the NCAA rules have advantages as well as disadvantages for certain ethnic groups.
4. For additional information related to the graduation report which does not promote an accurate reading of how Proposition 48 has effected athletes.

The next section of this report will provide the methods and procedures to determine the significant correlation of SAT scores and GPA's. The population and instrument design will also be described in this section

CHAPTER III

METHODS AND PROCEDURES

This chapter contains a description of the methods and procedures used to conduct a study to determine the correlation between Elizabeth City State University football players SAT scores to their cumulative GPA. This chapter includes a description of the population, data collection and statistical analysis.

Population

The population of this study consists of fifty-three Elizabeth City State University football players ranging from freshmen to seniors. Some of the players are transfer students from junior colleges and other universities.

Data Collection Procedures

Information was obtained from the Registration Office which revealed the cumulative grade point average of all the ECSU football players. The second piece of data obtained for research was the SAT scores which also was obtained from the Registration Offices.

Statistical Analysis

The purpose of this study was to find the correlation between Elizabeth City State University football players SAT

scores to their cumulative GPA. Pearson's r method of linear correlation will be used to compare the level of correlation between SAT scores and cumulative GPA's.

Summary

The purpose of Chapter III of this study was to provide a description of the methods and procedures that were used to conduct a correlation of Elizabeth City State University SAT scores with cumulative GPA's as a predictor of success. The chapter included the description of the population, methods of data collection, and methods used to analyze the data collected in this study.

CHAPTER IV

FINDINGS

The problem of this study was to determine the correlation of ECSU football players SAT scores to their cumulative GPA's to determine their college success. This chapter contains the Findings and an analysis of data summary. A scattergram was used to arrange and present the data found. Information was gathered by comparing the SAT scores and the cumulative GPA's. The Figures show the mean of the cumulative GPA's, the mean of the SAT scores and a scattergram of the correlation coefficients. To show the level of correlation between the SAT scores and cumulative GPA's, a diagram with Pearson's r method of linear correlation was used.

Figure 1.1 includes information about the mean of the cumulative GPA's of the ECSU football players. The scattergram of the players cumulative GPA's and the mean of 2.245 helps to see that most of the cumulative GPA's are somewhat close together. This shows that most of the players GPA's are in the area of 2.00 to 2.50.

Figure 1.2 revealed the mean of the SAT scores of the ECSU football players. This figure shows that the mean of the SAT scores was 728.87. Showing that a majority of the ECSU football players scored in the area of 700 to 850 on their SAT scores.

Fig. 1.1
CUM GPA DISTRIBUTION

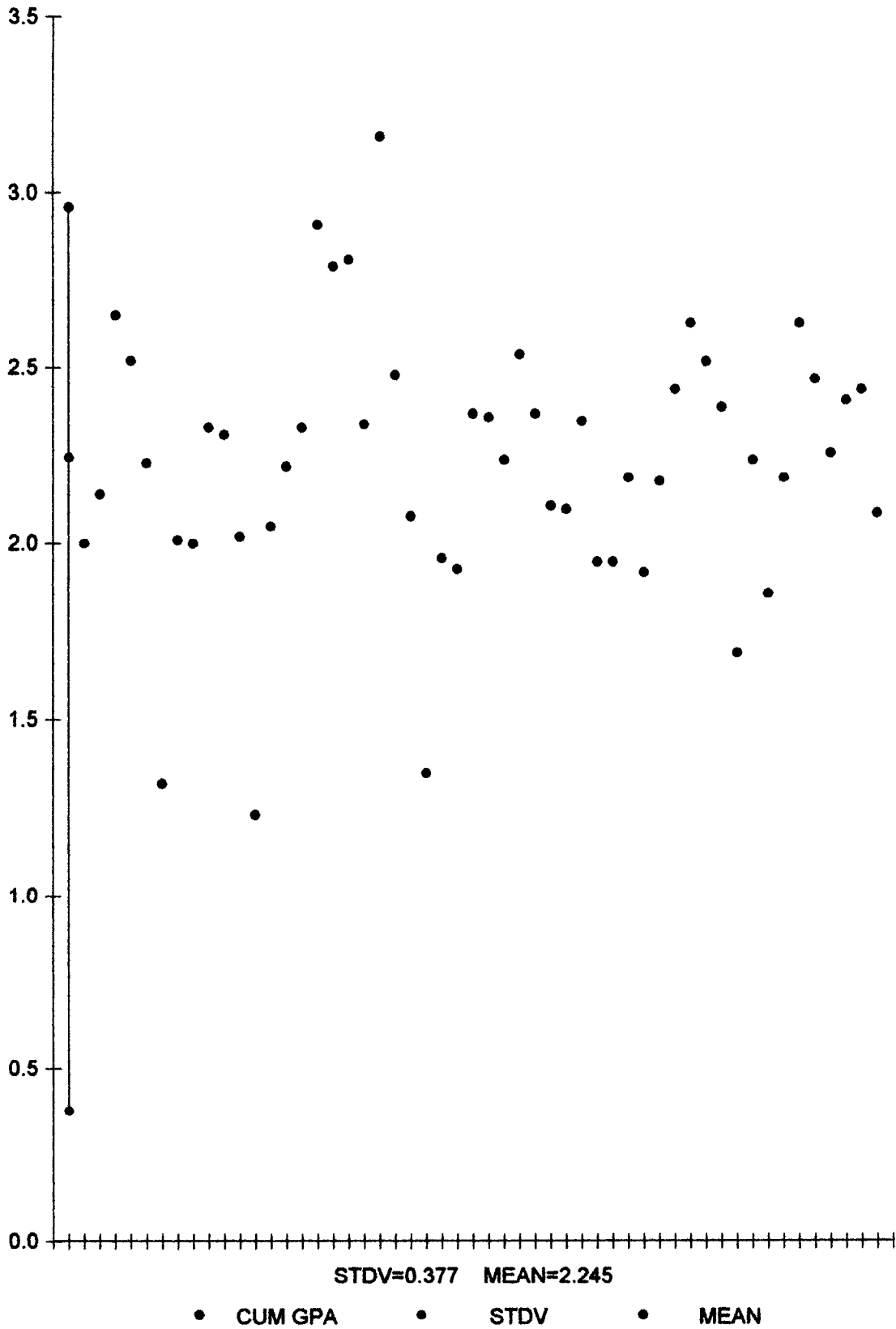


FIG. 1.2
SAT DISTRIBUTION

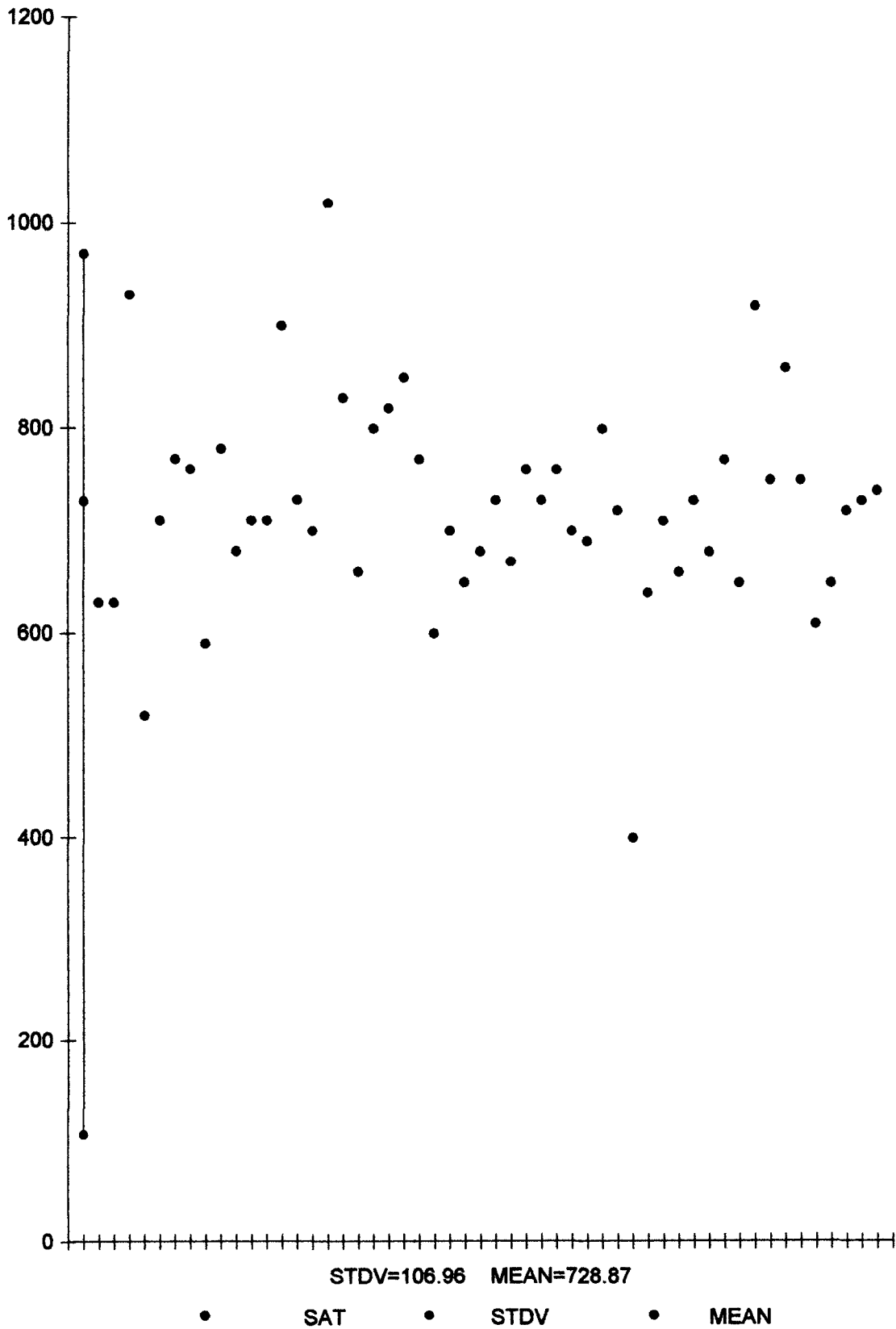
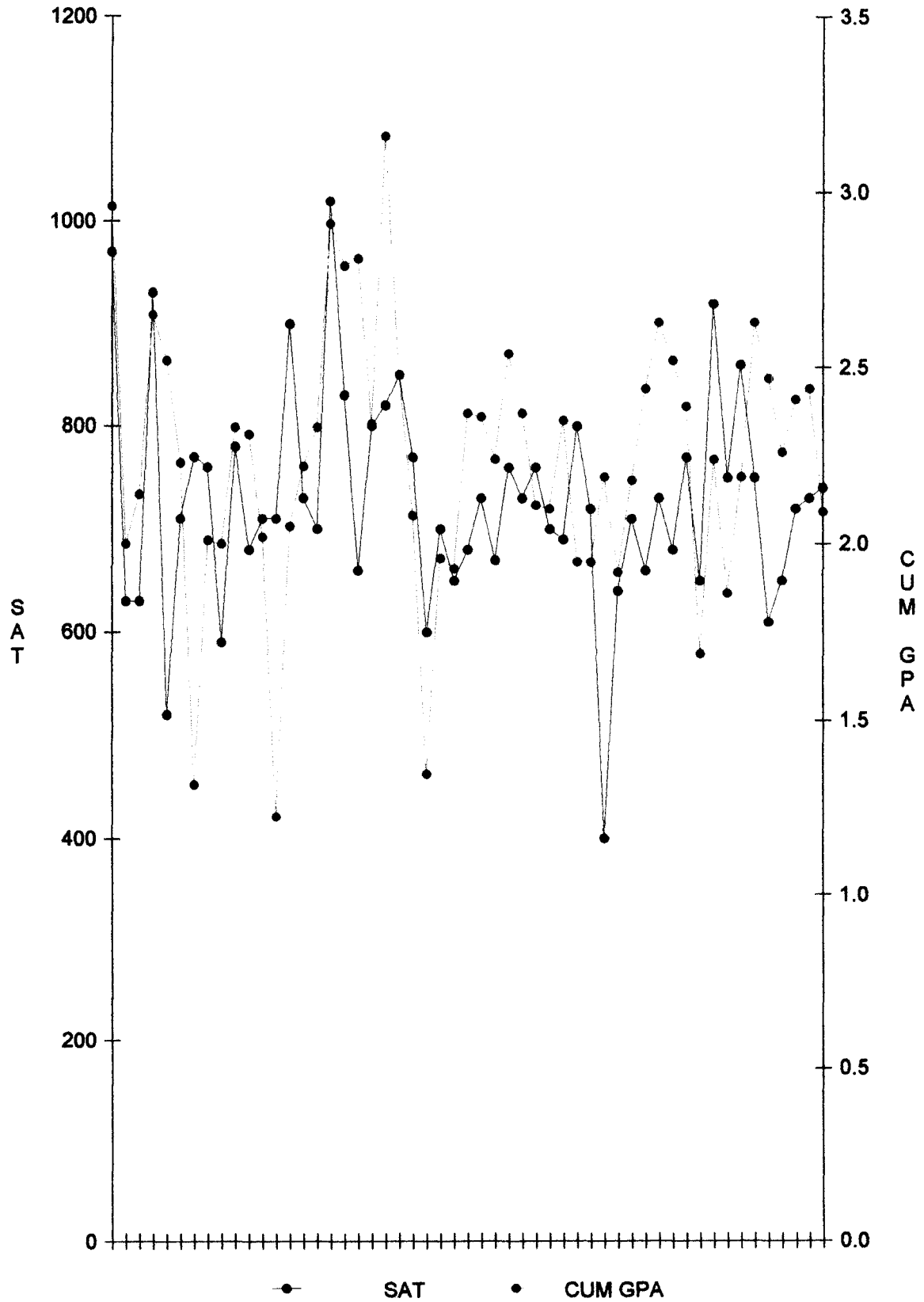


FIG. 1.3
CORRELATION OF SAT TO GPA



The correlation of the SAT scores to the GPA's of the ECSU football players was shown in Figure 1.3. The scattergram reveals that the cluster of the SAT scores and the cumulative GPA's fall between the scores of 700 to 800 and 2.0 to 2.5.

Pearson's r method of linear correlation was used in diagram 1.1 to compare the level of correlation between SAT scores and cumulative GPA's. Using the two-tailed significance the answer of the correlation coefficient was .3689 and the degree of freedom (df) was 51 with the value of $N= 53$.

SUMMARY

This chapter contained the Findings and the analysis of data summary. Figure 1.1 shows the cumulative GPA distribution of the study which revealed that most of the players GPA's were between 2.00 to 2.50. Figure 1.2 helps to illustrate that the mean of the SAT scores of the ECSU players were in the area of 700 to 850. The correlation of the SAT scores to the GPA's of the ECSU football players were shown with a scattergram in Figure 1.3. Pearson's r method of linear correlation was displayed in Diagram 1.1 showing that the degree of freedom(df)= 51 and the value of $r= .3689$.

Diag. 1.1

PEARSON'S R METHOD OF LINEAR CORRELATION

Correlation Coefficients

(SAT) (CUM. GPA)

N= 53

Degrees of Freedom (df)

df= N-2

df= 53-2

df= 51

r= .3689

CHAPTER V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

SUMMARY

The problem of this study was to determine the correlation between Elizabeth City State University football players SAT scores to the cumulative GPA's to predict college success. The following hypothesis was established to guide this study.

H₀: There is no correlation between the SAT scores earned by student athletes and their accumulative GPA for football players at Elizabeth City State University.

To accomplish this hypothesis, information was obtained from the administrative office of Elizabeth City State University. The data received compiled all the players SAT scores and their accumulative GPA's. The purpose of this study was to find the correlation between ECSU football players SAT scores and their accumulative GPA's. When all the data was received, then the Pearson's r method of linear correlation was used to compare the level of correlation between SAT scores and accumulative GPA's. Scattergram graphs were used to show the cluster of SAT scores and accumulative GPA's of the ECSU football players. The scattergram figures were developed to show the relationship of the SAT scores to the accumulative GPA's.

CONCLUSION

The scattergram figures showed that the SAT scores and the accumulative GPA's were very similar in relations. The hypothesis established for this study was,

H₀: There is no correlation between the SAT scores earned by student athletes and their accumulative GPA's for football players at Elizabeth City State University.

In comparing the SAT scores with the accumulative GPA's there was a significant correlation between the two. The higher the SAT scores were the higher the accumulative GPA. All of the SAT scores related with accumulative GPA's on Figure 1.3. The answer of the coefficient was .3689 using Pearson's *r* method of linear correlation. In the problem (*df*) = 51 because we find (*df*) by using the formula $N-2$ where *N* equals 53. After locating 51 in the (*df*) column the figure was .273 at the .05 level and .354 at the .01 level. The *r* .3689 exceeds both of these values, so it is significant at the .01 level. Using a two tailed significance reveals that the study has a slight correlation. This hypothesis is false, in which case there is a correlation between students who do well on the SAT will do well in school.

RECOMMENDATIONS

The scattergram figures and Pearson's *r* correlation

method shows the significant correlation between the SAT scores and the accumulative GPA's of football players at Elizabeth City State University. There are some issues that need to be addressed for the study.

1. A recommendation to review the study habits of Elizabeth City State University football players in order to improve their accumulative GPA's.

2. Another recommendation would be to evaluate the courses that the student athletes are taking and how many hours they are taking per semester. The mandated total number of hours for graduation is 124. Having the student athletes take 15 hours during the season and a minimum of 16 hours in the off season will allow them to graduate in 4 years without attending summer school. By decreasing the load on the student athletes, this will give them more time to concentrate on their studies.

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